Special Report on the Kemess South Mine Power Line Right-Of-Way

Follow-Up to a Forest Practices Board Special Investigation

Special Report

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Introduction

In June 2000, the Board published a special investigation report titled *"Significant Breaches of the Forest Practices Code along the Power Line Corridor for the Kemess South Mine."* The report was based on an investigation of breaches of the Forest Practices Code along the right-of-way for a 340-kilometre power line built to service the Kemess South copper mine in northeastern BC. That report made a number of recommendations to address environmental problems and government enforcement of the *Forest Practices Code of British Columbia Act* (the Code).

The 2000 special investigation report was the first and, to date, the only case where the Board has found significant breaches of the Code. A significant breach is defined in the legislation as a breach of Code requirements "that has caused or is beginning to cause significant harm to persons or the environment." The Board concluded that the failures to comply with Code requirements were causing significant harm to the environment and that government's response to the reporting of significant breaches was inadequate and uncoordinated. In total, six separate breaches of the Code were identified.

Four of the breaches involved specific environmental harm at four separate locations along the power line corridor. A fifth breach involved the cumulative harm caused by leaving slash and debris in numerous streams along the corridor. The sixth breach involved cumulative harm to streams caused by temporary skid bridges that had not been removed following construction, in contravention of the logging plan approvals issued under the Code.

The special investigation report included several recommendations pertaining to remediation, government enforcement and training. Two of the five recommendations were designed to identify what works were needed to maintain and/or rehabilitate roads and trails, and to address slash and debris that had been left in streams. In responding to the Board's recommendations in 2000, Kemess Mine and the Ministry of Forests said that works were being completed on the right-of-way but that the last of the works were not scheduled for completion until the summer of 2003.

Accordingly, in August 2003, the Board revisited the right-of-way to assess what work had been done, as well as the effectiveness of the Board's recommendations in ensuring that the environmental harm that had been identified was addressed. This report discusses the Board's findings on the current condition of the right-of-way and the subsequent responses of Kemess Mine and the government ministries to the Board's findings.

Discussion

The 2003 power line inspection was conducted by the same individuals who first inspected the line in 1999: a professional forester employed by the Board, a consultant who is a professional forester and professional engineer, and a consultant who is a professional biologist and a certified professional in erosion and sediment control with expertise in sedimentation issues.

Work Done to Address the Significant Breaches

The original investigation identified six significant breaches of the *Forest Practices Code of British Columbia Act*. The six breaches consisted of four specific breaches of the Code at specific sites and two breaches that were the result of cumulative problems.

Four Individual Breaches

The August 2003 inspection found that a good job has been done to deactivate many areas along the right-of-way. All four sites where individual significant breaches occurred have been adequately remediated. **The Board concludes that the areas have been adequately addressed and no further action is required.**

Slash within Riparian Areas – Cumulative Impact

The fifth significant breach noted in the 2000 report consisted of more than 50 streams along the right-of-way that contained felled trees, logs or slash, which were contributing sediment and organic matter to streams and disturbing stream channels and banks. In addition, the debris could modify stream flow in the future.

In 2003, based on visual observations from the air, it appears that slash and debris have been removed from most streams. **The Board concludes this issue has been adequately addressed.**

Skid Bridges – Cumulative Impact

A sixth significant breach consisted of more than 169 skid bridges that remained in 1999.

The original logging plans required removal of the skid bridges upon completion of hydro tower construction, with deactivation to be completed no later than August 31, 1998. Although most of the individual skid bridges were a minor problem, the cumulative effect of leaving so many temporary skid bridges in place along the entire length of the power line was significant. Most of the observed bridges were not able to accommodate the passage of large debris and were susceptible to being washed out. Many were too short to span channel banks. These bridges were supported on sill logs that were within the stream channel. Silt draining off poorly maintained or improperly constructed road surfaces, sill logs disturbing stream channels, and soil being deposited into, or transported to, streams because of the lack of bank armouring were creating significant harm to the environment.

The August 2003 inspection revealed that many of the bridges had been removed. However, 53 skid bridges were still in place along the power line right-of-way. The bridges do not appear to have had remedial work done to them since they were first observed in 1999. Most of these bridges cross fish streams and were not designed for high stream flows or for use beyond the brief time of clearing of the corridor. The bridges were built with logs that have less than a 10-year service life, and they are not adequately installed to handle debris or erosion of abutments. Most of the remaining bridges cross low to moderate flow steams. Generally, the abutments are single sill logs laid on the ground with no armouring, and some encroach on the wetted perimeter. While no immediate issues were observed, some of the bridges have abutments that are beginning to be undermined and the lack of armouring is introducing silt to the streams.

The Board is concerned that the 53 remaining bridges still pose a significant risk to the environment, although they are not resulting in significant harm at this time. **The Board concludes that the environmental issues identified in the 2000 special investigation pertaining to temporary skid bridges have not been adequately addressed.**

Licensee and Government Response to Follow-Up Findings

On October 1, 2003, the Board wrote to the Kemess Mine and the Ministries of Energy and Mines, Forests, and Water, Land and Air Protection, informing them of the current condition of the power line. The Board requested an explanation of why the remaining bridges had not been removed.

Kemess Mine responded and claimed that the bridges were left in place to provide access for routine inspection and maintenance, and are consistent with the semi-permanent deactivation requirements in the Code. In 2000 and again in 2002 the licensee hired a forestry consulting firm to inspect the ground conditions, inspect the construction quality of roads and crossings, and determine long term stability of the right-of-way. Kemess Mine stated that the detailed inspection of the entire right-of-way in 2002 found that all deactivation works were performing as designed and there were no areas of significant concern. Another inspection is planned for 2004.

The Board has reviewed the reports prepared by the forestry consulting firm and notes that it does not specifically discuss any of the risks associated with the skid bridges as identified by the Board. There is no mention of risk of blockage or collapse, nor of the ongoing sediment input from unarmoured abutments.

The Ministry of Forests responded by explaining that the Ministry of Energy and Mines is responsible for monitoring of the power line. The forest district said it has requested further information from the licensee and informed the Ministry of Energy and Mines of its jurisdiction.

The Ministry of Water, Land and Air Protection responded by stating that it is acting in a support role and will provide input to the Ministries of Forests and Energy and Mines upon request.

The Ministry of Energy and Mines responded by referring to the Kemess Mine's deactivation plan, it's explanation that the bridges remain to provide access for maintenance and the mine's commitment to monitor the power line and take appropriate action to address issues of health, safety or environmental risk as they arise.

The Board concludes that none of the responses addresses the continuing environmental issues associated with the remaining 53 skid bridges. There do not appear to be solid reasons for leaving the bridges in place, furthering the risk to the environment. The exception is one bridge in the alpine, for which the Ministry of Water, Land and Air Protection advised that removal could cause more damage than leaving it in place. There is little indication from government of what action, if any, might be taken to review and address the situation. However, Kemess Mine said it plans another inspection of the right-of-way this coming summer.

Recommendations

The Board examined the power line right-of-way using the services of three professionals: 1) a professional forester; 2) a professional forester/professional engineer ; and 3) a registered professional biologist who is also a certified professional in erosion and sediment control. The professional opinions of these experts led the Board to conclude that the 53 remaining bridges continue to pose a significant risk to the environment.

The response from the licensee and the apparent lack of government inspection of the right-of-way concerns the Board. The licensee noted that its staff inspected the right-of-way in 2003 by air, but it appears that the inspector was neither a professional forester nor a professional engineer. However, the Board acknowledges that the licensee has said a detailed on-the-ground inspection is scheduled for 2004. In light of this, the Board is making three recommendations:

1. Kemess Mine should have the remaining 53 bridges and their approaches professionally assessed and attended to by a registered professional engineer and a certified professional in erosion and sediment control, during the 2004 inspection.
2. Kemess Mine should ensure that the risk to the environment is minimized by completing any remedial, stabilization, erosion control, deactivation, and/or maintenance work that is recommended by the registered professional engineer and the certified professional in erosion and sediment control.
3. The Ministry of Energy and Mines, Ministry of Forests and Ministry of Water, Land and Air Protection should review the professional reports arising from the 2004 inspection and take appropriate actions to ensure Kemess Mine addresses any concerns or environmental harm that is identified.

The Board requests that the licensee and the three ministries advise the Board by August 31, 2004, of what actions have been taken to address these recommendations.

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